

Damascene Interconnect Structures Including Etchback for Low-k Dielectric Materials

Abstract

A method for forming back-end-of-line (BEOL) interconnect structures is disclosed. The method and resulting structure includes etchback for low-k dielectric materials. Specifically, a low dielectric constant material is integrated into a dual or single damascene wiring structure which contains a dielectric material having relatively high dielectric constant (i.e., 4.0 or higher). The damascene structure comprises the higher dielectric constant material immediately adjacent to the metal interconnects, thus benefiting from the mechanical characteristics of these materials, while incorporating the lower dielectric constant material in other areas of the interconnect level.